Assessment of Environmental Indicator Status (CA725 and CA750)

DuPont Pompton Lakes Works
Pompton Lakes, New Jersey 07442
EPA I.D. # NJD002173946

FACILITY DESCRIPTION

The DuPont Pompton Lakes Works (PLW) facility is located at the eastern edge of the New Jersey Highlands physiographic province in the Boroughs of Pompton Lakes and Wanaque, in Passaic County, New Jersey. It is bordered on the west by Lake Inez, to the north and northwest by Twin Lake Valley (commercial services and residential land use), and to the south and southeast by the town of Pompton Lakes (industrial, commercial services, and residential land use). Lake Inez was drained in 1979 and now consists of a stream bordered by a swampy area. An intermittent stream, Acid Brook, flows south through the facility, meanders through the town of Pompton Lakes, and empties into Pompton Lake.

The PLW facility operated from the late 1800s until April 1994, when all operations ceased. Although the entire site encompasses approximately 630 acres, the active manufacturing portion was contained within approximately 400 acres. DuPont's operations consisted of manufacturing explosives, lead azide blasting caps, military products (e.g., incendiary and tracer bullets, rifle and hand grenades), smokeless powder, aluminum and bronze shell making, and wire drawing operations. DuPont utilized a number of areas of the site for disposal of various wastes. These wastes include lead salts, mercury compounds, explosive powders, chlorinated solvents, waste wire drawing solution, and detonated off-specification blasting caps.

Preliminary investigations conducted from 1981 through 1986 identified chlorinated solvents in groundwater. As a result, the facility entered into an Administrative Consent Order (ACO) with the New Jersey Department of Environmental Protection (NJDEP) in September 1988. The ACO required DuPont to conduct a groundwater investigation in the plant operating regions and downgradient of these regions, and a remedial investigation (RI) of all areas of concern (AOCs). A preliminary assessment (PA) was conducted in 1988 and identified 118 AOCs. In 1992, EPA issued the facility a Hazardous and Solid Waste Amendment (HSWA) permit for all identified AOCs. The HSWA permit subdivided several AOCs, thereby increasing the number of AOCs from 118 to 151. Subsequent to ceasing manufacturing operations in April 1994, DuPont Environmental Remediation Services (DERS) conducted another PA of the former operating areas and identified an additional 40 AOCs. An additional 11 AOCs were identified during a 1996 Lake Inez PA. Thus, a total of 202 AOCs have been identified at the DuPont PLW site.

SUMMARY OF AREAS OF CONCERN (AOCs)

During the initial PA, on- and off-site contamination was detected in all media, including soil, sediment, surface water, and groundwater. Initially, only 66 of the 202 identified AOCs had been investigated or subject to interim remedial measures. In July 1999, DuPont agreed to conduct the remainder of the site investigations by dividing the site into four regions (including both on- and off-site areas) based on geography and operational history. The four regions include: the Acid Brook Valley South Plant Region (on and off site), the Mid Plant Region, the North Plant Region, and the Wanaque River (former Lake Inez) Region. Groundwater is being addressed separately under the Comprehensive Groundwater Monitoring Program (CGWMP). A brief description of each region (including groundwater) under investigation and the contaminants detected above NJDEP standards[1], is presented below. A summary

[1] DuPont has evaluated on-site surface soil contaminants using the New Jersey Non-Residential Direct Contact Soil Cleanup Criteria (NJ NRDCSCC) and, in some cases, the New Jersey Residential Direct Contact Soil Cleanup Criteria (NJ RDCSCC). Subsurface soil contaminants were also compared to the New Jersey Impact to Groundwater Soil Cleanup Criteria

table of the status of the individual AOCs within each region is presented in Table 1. A facility map is provided as Attachment 1.

Acid Brook Valley South Plant Region:

On Site: This area encompasses 40.3 acres, and contains 33 AOCs, 27 of which, identified during the 1988 PA, have been investigated to some extent. This area is relatively flat so that surface water runoff primarily drains to lagoons and depressed areas where water infiltrates the ground surface. The only surface water body discharging from the area is Acid Brook. Depending on the location of the AOC (whether on or off site), contaminants were compared to the either NJ NRDCSCC or NJ RDCSCC. Contaminants detected in soil above relevant criteria include metals (i.e., mercury, copper, lead), polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) (Ref. 5). In addition, organic explosives were detected in trace amounts throughout soil in this area; however, no concentrations were detected above applicable cleanup criteria (Ref. 5). Metals (lead, mercury, copper, selenium, zinc, and barium) were also detected in soil and sediment in Acid Brook. Interim measures conducted to date at Acid Brook include desilting and excavation of approximately 2,000 feet of stream channel and bank sediment to a depth of approximately 24 to 30 inches, which resulted in approximately 5,000 cubic yards of material being removed. Post-excavation samples indicated no concentrations in excess of NJ NRDCSCC. Ongoing remedial efforts include the installation of engineering controls (i.e., detention ponds) to protect Acid Brook (Ref. 24) from overflow events. In addition to the remedial efforts, DuPont has agreed to establish a deed restriction to restrict the use of this area to non-residential only. Additionally, engineering controls will likely be used (i.e., buildings, pavement) to prevent exposure to contaminants (Ref. 24). Additional field investigations and remedial actions were originally scheduled to begin in March 2001 (Ref. 24). The current status of these investigations is unknown. The status of individual AOCs in this region, based upon available documentation, is presented in Table 1.

Off Site: This area includes the Pompton Lakes residential community, which is situated immediately southeast of, and adjacent to, the facility property South Plant Region. Approximately 1,000 residential homes are situated within a mile of Acid Brook. Frequent flooding of Acid Brook over the years has deposited contaminated sediments across the site and onto these adjacent residential properties. As part of the ACO, DuPont was required to investigate the off-site migration of contaminants at the site boundary and in the adjacent residential community. The initial PA identified soil, surface water, sediment, and groundwater contamination in this area. Soil contaminants in excess of NJ RDCSCC include lead and mercury. DuPont began remediation of the residential area in September 1991. Phase I of the remedial action for the Acid Brook Delta Project was completed in August 1996, and a Remedial Action Report (RAP) was submitted in January 1997. The RAP addressed the Lakeside Avenue Area and documented the excavation and off-site disposal of 1,360 tons of soil (Ref. 22). Remedial efforts in this area are currently ongoing. The status of individual AOCs in this region, based upon available documentation, is presented in Table 1.

Mid Plant Region: This area contains 65 AOCs, 36 of which have had some investigation (i.e., characterization sampling) or remediation (i.e., soil excavation, debris removal, regrading the soil and establishing vegetation). DuPont implemented a deed restriction limiting current and future development of the Mid Plant Region to non-residential uses only (Ref. 28). As a result, contaminant concentrations were compared with NJ NRDCSCC and NJ IGWSCC. Contaminants that exceed relevant criteria include

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(NJ IGWSCC). Groundwater concentrations were compared to New Jersey Ground Water Quality Criteria (NJ GWQC) for Class II-A potable aquifers.